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RESEARCH ARTICLE

Cost Effectiveness of Calorie Labeling at Large Fast-Food Chains Across the U.S.

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Introduction: Calorie labeling of standard menu items has been implemented at large restaurant chains across the U.S. since 2018. The objective of this study was to evaluate the cost effectiveness of calorie labeling at large U.S. fast-food chains.

Methods: This study evaluated the national implementation of calorie labeling at large fast-food chains from a modified societal perspective and projected its cost effectiveness over a 10-year period (2018−2027) using the Childhood Obesity Intervention Cost-Effectiveness Study microsimulation model. Using evidence from over 67 million fast-food restaurant transactions between 2015 and 2019, the impact of calorie labeling on calorie consumption and obesity incidence was projected. Benefits were estimated across all racial, ethnic, and income groups. Analyses were performed in 2022.

Results: Calorie labeling is estimated to be cost saving; prevent 550,000 cases of obesity in 2027 alone (95% uncertainty interval=518,000; 586,000), including 41,500 (95% uncertainty interval=33,700; 50,800) cases of childhood obesity; and save $22.60 in healthcare costs for every $1 spent by society in implementation costs. Calorie labeling is also projected to prevent cases of obesity across all racial and ethnic groups (range between 126 and 185 cases per 100,000 people) and all income groups (range between 152 and 186 cases per 100,000 people).

Conclusions: Calorie labeling at large fast-food chains is estimated to be a cost-saving intervention to improve long-term population health. Calorie labeling is a low-cost intervention that is already implemented across the U.S. in large chain restaurants.
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INTRODUCTION

One in three Americans consumes fast food on any given day.[1,2] Research has shown that these highly palatable ultra-processed foods may be less satiating and lead to overconsumption.[3] Increased consumption of sugary and ultra-processed foods in the last several decades has emerged as a critical contributor to excess weight gain in the U.S.[4,5] On days

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they eat at fast-food restaurants, children consume 126 more calories than on days without fast food, adolescents consume 310 more calories, and adults consume 194 more calories.[6,7] Calorie menu labeling may empower individuals to make healthy choices while eating out by providing information on the healthfulness of menu items at the point of purchase.

The 2010 Patient Protection and Affordable Care Act (ACA) mandated calorie labeling at large restaurant chains across the country, effective May 2018.[8] Before the national implementation of calorie labeling, results of evaluations of calorie labeling's impact on dietary choices were mixed, primarily owing to the lack of well-powered studies.[9,10] Recent work, using restaurant transaction data that included time before and after national implementation of calorie labeling—the only such evaluation to date—found small-to-moderate reductions in calories purchased per transaction.[11]

Although prior cost-effectiveness analyses of calorie labeling have been published,[12−14] they relied on effect estimates from meta-analyses of menu labeling studies in various settings (including laboratory settings), none of which evaluated the national implementation of calorie labeling as mandated by the ACA. In addition, to the authors' knowledge, none have estimated the impact of calorie labeling for both children and adults and across racial and ethnic groups and income groups, despite concerns that calorie labeling might be less impactful for individuals with lower socioeconomic status (SES).[15,16] Using evidence from the only evaluation of the national implementation of calorie labeling as mandated by the ACA,[11] this study evaluates the cost effectiveness and equity impact of calorie labeling at large fast-food restaurant chains in the U.S. This information can inform federal government decision making, given that such policies can be rescinded, and similar ones are being proposed (e.g., front-of-package nutrition labels).[17]

METHODS

The intervention modeled is the federal calorie labeling regulation, which requires all noninstitutional food retail chains with ≥20 locations to provide calorie information on their menus, menu boards, or food tags, along with an anchor statement specifying the daily recommended calorie intake for a typical adult.[8] To evaluate the cost effectiveness of calorie labeling at *large fast-food chains*—defined as restaurants with counter service and no wait staff[18]—this study used the Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES) microsimulation model.[12] A 10-year time horizon (2018−2027) was used to ensure the policy relevance of the cost-effectiveness estimates,[12,19] given the lack of good evidence on weight maintenance over longer periods. The study does not constitute human subjects research.

Study Population

The CHOICES model was used to create a nationally representative virtual population of persons aged ≥2 year[12,20,21]—the assumed intervention target population—using data from the 2010 Census Bureau, American Community Survey, Behavioral Risk Factor Surveillance System, National Health and Nutrition Examination Surveys (NHANES), and National Survey of Children's Health. Data from the U.S. Population Projections, Period Life Tables, and NIH-American Association of Retired Persons Diet and Health Study were used to account for population growth. Lifetime height and weight trajectories are based on published analyses.[22] Detailed microsimulation model parameters are available in Appendix Table 1 (available online).

Measures

Prevention of excess weight gain is the primary outcome used to estimate population health and healthcare cost impacts; the impact of the intervention on quality-adjusted life years (QALYs) is also reported (the methods used to estimate QALY weights are presented in Appendix Table 1, available online). The effect of calorie labeling at large fast-food chains on BMI was modeled (Appendix Table 2, available online). In the absence of a direct estimate of the impact of calorie labeling or of a change in fast-food consumption on BMI, the following logic was used (Appendix Figure 1, available online). First, it was assumed that calorie labeling would reduce the average calories purchased per fast-food meal, which would directly translate into a reduction in calories consumed per meal. Using over 67 million fast-food restaurant transactions between 2015 and 2019, Petimar et al. found that before the implementation of calorie labeling, consumers purchased 1,486 calories per transaction on average. After implementation, consumers purchased on average 4.7% fewer calories—equivalent to 73 calories—per transaction across all restaurants, with a greater reduction at restaurants in census tracts with higher income than in those with lower income.[11] This study applied a stratified estimate for the impact of calorie labeling on individual fast-food purchases by census tract income quartile using data from supplemental analyses of the fast-food transaction data published by Petimar,[11] under the assumption that people are more likely to dine at restaurants in their census tracts or in census tracts with similar demographic profiles.[23−25] For those living in census tracts where the median household income is in the lowest quartile (<$35,800), calorie labeling is associated with a 2.3% reduction in calories purchased per transaction; for those living in census tracts where the median household income is in the highest quartile (≥$66,120), the reduction is 8.1%.

Using evidence from prior studies,[26−28] it was assumed that owing to compensation (i.e., adjustments in energy intake in response to dietary changes to feel satiated[29]), only 25% of the reduction in calories consumed per fast-food meal would translate into a change in daily energy intake (75% compensation). From this reduced energy intake, reductions in weight using the Hall et al. energy balance models for children and adults were used.[12,30,31] A time to effect of 24 months for children and 36 months for adults was used, and maintenance of the intervention and its effects over the 10-year time horizon was assumed.[30,31]

Using the U.S. Food and Drug Administration's analysis of the food retail market, it was assumed that 69.4% of fast-food calories were obtained from large chains that were required to implement calorie labeling.[32] Mean daily calories consumed from fast-food sources by age, sex, race, and ethnicity were estimated using data from the 2011−2016 NHANES to account for baseline differences in consumption by group (Appendix Table 3, available online). Self-reported race and ethnicity categories were collapsed into 4 separate groups to ensure a large enough sample size to estimate calorie consumption for each stratum. The impact of calorie labeling on the prevention of excess weight gain (cases of obesity prevented) is reported for the overall population as well as stratified by racial and ethnic and income groups (defined using the percentage of the federal poverty level) in the year 2027 only given that individuals move in and out of obesity over time. Differences in the effect of the intervention are based on baseline differences in fast-food consumption and differential effects estimated by census tract income quartile; there are no direct estimates of change in calories purchased by race and ethnicity of the consumer.

Implementation cost estimates were extracted from the U.S. Food and Drug Administration's food retail market analysis and updated.[32] Cost categories included (1) federal government policy dissemination; (2) restaurant industry nutritional assessment, menu design and replacement, and legal review; and (3) local government compliance monitoring. Costs were limited to those at the chain level. Omitted costs included those associated with (1) analyzing reformulated menu items given that reformulation is not required by the final rule[32] and 2) training restaurant staff in using calorie labels, which are expected to be very small or nonexistent. The cost-effectiveness analysis used a modified societal perspective,[12] 2019 as the reference year, a 3% discount rate,[33] and a cost-effectiveness threshold of $150,000 per QALY.[34] Healthcare costs saved per $1 invested in the intervention and the cost per QALY gained are reported. Healthcare costs associated with BMI are based on published analyses.[35] Following cost-effectiveness analysis guidelines, cost-per-QALY-gained values are not reported when they are negative or cost saving.[36] Additional details about model inputs are available in Table 1 and Appendix Table 4 (available online).

Statistical Analysis

The CHOICES model is a stochastic, discrete-time, individual-level microsimulation model of the U.S. population.[12] All models are reported with 95% uncertainty intervals (UIs) using 1,000 iterations of the model using Monte Carlo simulations.[12,37] Probabilistic sensitivity analyses were conducted by simultaneously sampling from parameter distributions. Analyses were performed in 2022.

A set of 1-way sensitivity analyses was also conducted (Appendix Table 2, available online). In the first set of analyses, instead of stratifying the impact of calorie labeling on fast-food purchases by census tract income quartile, an overall effect (−4.7%; 95% CI= −5.2%, −4.2%) was applied to all individuals in the population (Sensitivity Model 1).[11] In addition, a threshold analysis was conducted for the amount of compensation and assumed that the change in total daily energy intake was only 5% (instead of 25%) of the change in calories consumed from fast-food (Sensitivity Model 2).

In the second set of analyses (3−5), the impact of calorie labeling on changes in intake of sugar-sweetened beverages (SSBs) intake only was modeled, which incorporated direct evidence on the expected change in weight from a change in SSB consumption from randomized trials and change-in-change studies and accounted for a differential effect of the intervention by baseline BMI (Appendix Figure 2, available online).[27,38−44] Mean daily calories consumed from SSBs from fast-food sources by age, sex, and obesity status were estimated from NHANES to account for baseline differences in intake by group (Appendix Table 5, available online).

RESULTS

Compared with what would have happened had calorie labeling not been implemented (the counterfactual), calorie labeling is projected to reach 349 million Americans over the period 2018−2027 and prevent 550,000 (95% UI=518,000, 586,000) cases of obesity in 2027, including 41,500 (95% UI=33,700, 50,800) cases of childhood

Table 1. Key Intervention Implementation Parameters: Reach, Effect, and Cost

Model parameter	Mean values	Sources
Reach parameters		
Benefiting population	American children aged 2–19 years; American adults aged 20–100 years in all 50 states and Washington, DC	n/a
Effect parameters		
Proportion of fast-food meals from large chain restaurants	69.4%	FDA regulatory impact assessment[32]
Mean daily calories consumed from fast food	Children aged 2–19 years: 267.7 kcals (SE=10.3) Adults aged 20–100 years: 301.1 kcals (SE=7.6)	2011–2016 National Health and Nutrition Examination Survey
Percentage change in calories purchased per transaction, stratified by census tract income quartile	Quartile 1 (lowest income): −2.3% (95% CI= −3.2%, −1.3%) Quartile 2: −4.1% (95% CI= −5.1%, −3.1%) Quartile 3: −4.2% (95% CI= −5.2%, −3.2%) Quartile 4 (highest income): −8.1% (95% CI= −8.9%, −7.2%)	Petimar et al.[11] supplemental analyses
Cost parameters, by payer		
Federal government (FDA)		
Menu labeling guideline communication	$1,900,000 in year 1 only FDA administrative staff labor (10 FTEs)	FDA regulatory impact assessment[32]; U.S. Bureau of Labor Statistics
Restaurant industry		
Number of fast-food chains in Year 1	502	Authors' own calculations based on FDA Regulatory Impact Assessment[32] and County Business Patterns 2018 data
Proportion of chains without prior menu labeling in 2018	47%	FDA regulatory impact assessment[32]
Percentage growth in new eligible chains and establishments per year	2%	Authors' own calculations based on FDA Regulatory Impact Assessment[32] and County Business Patterns 2018 data
Number of fast-food establishments in Year 1	109,152	Authors' own calculations based on FDA Regulatory Impact Assessment[32] and County Business Patterns 2018 data
Number of menu items per chain	180	Analysis of MenuStat data (https://www.menustat.org/)
Number of new menu items per year per chain	12	Supplementary analysis of MenuStat data (https://www.menustat.org/)
Number of menu boards per establishment	3	FDA regulatory impact assessment[32]
Number of printed menus per establishment	360	FDA regulatory impact assessment[32]
Menu item analysis	$25,900,000 over 10 years Analysis of current and new menu items Nutrition database cost per menu item ($64) Dietician labor per menu item (4 hours)	FDA regulatory impact assessment;[32] U.S. Bureau of Labor Statistics
Menu and menu board design and replacement	$218,000.000 in Year 1 only Redesign cost per menu ($4,200) Menu board replacement cost ($625) Restaurant labor per menu board replacement (1.5 hours) Printed individual menu ($0.07)	FDA regulatory impact assessment;[32] U.S. Bureau of Labor Statistics
Industry legal review	$600,000 in Years 1–10 Lawyer labor per chain (10 hours)	FDA regulatory impact assessment;[32] U.S. Bureau of Labor Statistics
Local government		
Compliance monitoring	$58,600,000 in Years 1–10 Public health inspector labor per establishment (0.0005 FTE)	Previous cost-effectiveness analysis of menu labeling[12]; U.S. Bureau of Labor Statistics

DC, District of Columbia; FDA, U.S. Food and Drug Administration; FTE, full-time equivalent; n/a, not available.

obesity (Table 2). It is also projected to prevent 17,700 (95% UI=13,600, 22,200) deaths over the period of 2018−2027 and to lead to a gain of 267,000 (95% UI=251,000, 283,000) QALYs.

Calorie labeling is also projected to prevent cases of obesity across all racial and ethnic groups and all income groups (Table 3). However, cases of obesity prevented per 100,000 people among Hispanic or Latino individuals is 0.887 times (95% UI=0.805, 0.990) of that projected among non-Hispanic/Latino White individuals. Similarly, cases of obesity prevented per 100,000 people among the lowest income group is 0.817 (95% UI=0.748, 0.882) times the cases projected for the group with the highest income.

Calorie labeling is projected to cost $305 (95% UI=$348, $350) million, equivalent to $0.10 per exposed person per year. Most costs ($236 million) were incurred in the first year when restaurants were required to analyze menu items, redesign menus, and replace menu boards. The intervention is projected to save a total of $6,880 (95% UI=$6,670; $7,090) million or $22.60 (95% UI=$21.90, $23.30) in healthcare costs per $1 invested in its implementation. Overall, calorie labeling is projected to be a cost-saving intervention.

Results from all 5 sensitivity analyses project that calorie labeling is cost saving under multiple different assumptions, including when an overall effect of calorie labeling on calories purchases was used, when the change in daily energy intake was assumed to be only 5% of the change in calories consumed from fast food, and when the effect of calorie labeling on fast-food SSB purchases only was evaluated (Appendix Tables 6−15, available online). However, unlike the results from the main model, results from the sensitivity models suggest similar relative impact of calorie labeling across all racial and ethnic groups, with a slightly larger relative impact among Hispanic or Latino individuals in sensitivity models 3−5 and a slightly larger relative impact among non-Hispanic/Latino Black or African American individuals in sensitivity model 1 than among non-Hispanic/Latino White individuals. Results further suggest a similar relative impact of calorie labeling across all income groups, with a slightly larger relative impact among the group with the second highest income than among the group with the highest income in sensitivity models 4−5.

Table 2. Projected Reach, Cost, and Cost-Effectiveness Outcomes, 2018−2027

Outcome	Mean (95% UI)
10-year population reach (2018−2027)	349,000,000 (348,000,000; 350,000,000)
First-year population reach (2018)	314,000,000 (314,000,000; 315,000,000)
10-year intervention implementation cost (2018−2027)	$305,000.000
Annual intervention implementation cost	$30,500,000
First-year intervention implementation cost (2018)	$236,000.000
Annual intervention implementation cost per benefiting person	$0.10
Healthcare costs saved over 10 years (millions)	$6,880 ($6,670; $7,090)
Net cost difference (millions)	−$6,580 (−$6,790; −$6,370)
Healthcare costs saved per $1 invested	$22.60 ($21.90, $23.30)
Deaths averted	17,700 (13,600; 22,200)
QALYs gained	267,000 (251,000; 283,000)
Cost per QALY gained[a]	Cost-saving
Cases of adult + childhood obesity prevented in 2027 alone	550,000 (518,000; 586,000)
Cases of adult + childhood obesity prevented per 100,000 people in 2027 alone	175 (165, 186)
Reduction in adult + childhood obesity prevalence (overall) in 2027 alone (%)[b]	0.175 (0.165, 0.186)
Cases of childhood obesity prevented in 2027 alone	41,500 (33,700; 50,800)
Cases of childhood obesity prevented per 100,000 people in 2027 alone	59 (48, 72)
Reduction in childhood obesity prevalence in 2027 alone (%)[b]	0.059 (0.048, 0.072)

Note: Negative values mean the intervention is cost saving (dominant).
[a]100% of microsimulation iterations were cost saving (dominant).
[b]This is a reduction compared with what would have occurred in the absence of the national implementation of calorie labeling.
QALY, Quality-adjusted life year; UI, uncertainty interval.

DISCUSSION

Calorie labeling at large fast-food chains in the U.S. is projected to be a cost-saving intervention that improves population health. In the main model, calorie labeling is projected to prevent 550,000 cases of obesity in 2027, including 41,500 cases of childhood obesity. Similar benefits are expected across all racial and ethnic and income groups, with slightly smaller rates of obesity prevented among Hispanic or Latino individuals and among individuals living at are below 185% federal poverty level.

Table 3. Intervention Effect and Health Equity Metrics in Final Model Year (2027) With 95% Uncertainty Intervals

Population group	Cases of adult + childhood obesity prevented	Cases of adult + childhood obesity prevented per 100,000 people	Relative reduction in cases of adult + childhood obesity prevented per 100,000 people[a]	Cases of childhood obesity prevented	Cases of childhood obesity prevented per 100,000 people	Relative reduction in cases of childhood obesity prevented per 100,000 people[a]
By race and ethnicity						
Black or African American, not Hispanic or Latino	70,600 (62,400; 79,200)	179 (160, 200)	0.968 (0.835, 1.137)	6,260 (4,480; 8,470)	65 (47, 87)	1.121 (0.781, 1.685)
Hispanic or Latino	101,000 (93,400; 109,000)	164 (151, 177)	0.887 (0.805, 0.990)	11,200 (8,410; 14,300)	61 (47, 79)	1.057 (0.754, 1.498)
All other races, not Hispanic or Latino[b]	34,200 (29,900; 39,800)	126 (111, 147)	0.681 (0.581, 0.796)	3,850 (2,440; 5,580)	52 (33, 74)	0.894 (0.552, 1.430)
White, not Hispanic or Latino	343,000 (315,000; 372,000)	185 (170, 201)	ref	20,200 (14,600; 26,400)	58 (42, 76)	ref
By household income as a % of the FPL						
0–130% FPL	110,000 (104,000; 118,000)	152 (144, 161)	0.817 (0.748, 0.882)	12,500 (9,900; 15,200)	57 (45, 70)	0.982 (0.815, 1.230)
131–185% FPL	52,800 (48,100; 57,700)	164 (150, 180)	0.885 (0.804, 0.975)	5,100 (3,520; 6,510)	60 (42, 75)	1.028 (0.778, 1.396)
186–350% FPL	148,000 (137,000; 163,000)	183 (169, 201)	0.983 (0.912, 1.074)	11,100 (8,720; 14,300)	62 (49, 80)	1.071 (0.851, 1.312)
351–1,000% FPL	238,000 (219,000; 258,000)	186 (171, 200)	ref	12,800 (9,780; 16,400)	58 (45, 75)	ref

[a]The relative reduction metric is a ratio of cases of obesity prevented owing to intervention between each group and the reference category in 2027.
[b]This category includes people who identify as American Indian/Alaska Native, Asian, Native Hawaiian or Pacific Islander, Multiracial, or another race/ethnicity not represented in the other 3 categories. The results for relative rate of obesity cases prevented among this group are not interpretable given the heterogeneity within this group, which was consolidated given their relatively small population sizes.
FPL, federal poverty level.

These differences were not seen for children. This is a highly successful public health intervention, especially compared with other obesity prevention interventions, which typically cost more to implement.[12]

These results are consistent with those of previously published cost-effectiveness analyses of calorie labeling.[12,13] A 2015 study of calorie labeling at both fast-food and full-service chain restaurants projected the intervention to be cost saving but with smaller estimated impacts on the prevention of weight gain; the study only examined childhood obesity.[12] The study predated the national implementation of calorie labeling and therefore relied on a weaker estimate for the impact of calorie labeling on calories purchased from restaurants available at the time (−7.63 calories per meal).[10] A more recent cost-effectiveness analysis of calorie labeling also found the intervention to be cost saving, over a 5-year period (2018−2023), with benefits for cardiovascular health.[13] However, that study used an estimate for the effect of calorie labeling from a meta-analysis that included multiple types of study designs and settings that predated the national implementation of calorie labeling.[45]

Calorie labeling is a population-wide policy aimed at educating, empowering, and nudging individuals to make healthy choices while eating out by providing information on calorie content of items at the point of purchase. Evidence regarding the differential effects of labeling by SES is mixed; if there is a difference in response by SES, it could potentially be mediated by lower health or nutrition literacy in this population.[16,46] In this cost-effectiveness analysis, calorie labeling at large fast-food chains is projected to reduce cases of obesity for all income groups but may widen health disparities between some groups, especially among adults. However, it is also possible that these results may underestimate the effect among those with lower SES because the main model could not account for the differential effects of the intervention by baseline BMI. Evidence indicates that individuals in lower-income groups have, on average, a higher prevalence of obesity,[47,48] which may counteract the smaller effect of calorie labeling. At the same time, the estimates used were based off differential effects seen at the census-tract level, not on estimates of differential purchasing by income; it is possible that true differences by income at the individual level could differ from these neighborhood-level effects.

As a large-scale public health intervention to improve the food environment, calorie labeling is low cost, feasible, and sustainable. Although calorie labeling is projected to be cost saving, the implementation costs were likely overestimated. Most fast-food chains made nutritional information available (on their websites or inside the stores) before labeling;[49] thus, they would not have accrued additional costs to produce this information. In addition, the costs of monitoring compliance with calorie labeling by local health departments were modeled over the 10-year intervention period. However, to date, there is little evidence that compliance with labeling is monitored or enforced. Enforcing compliance with (and accuracy of) calorie labeling could potentially maximize population health benefits and cost savings. Finally, although some concerns have been raised about the potential role of calorie labeling in exacerbating eating disorders,[50] there is currently only very limited evidence to support this finding or recommend deimplementation of calorie labeling,[51] especially given its potential benefits.

Limitations

This study has multiple strengths and limitations. First, cost-effectiveness modeling studies inherently involve making varied assumptions on relationships for which data are sparse. Multiple scenarios were modeled adjusting those assumptions and found that calorie labeling was cost saving even under the most conservative scenarios. Second, the 10-year modeling period overlaps with the coronavirus disease 2019 (COVID-19) pandemic, which produced (and continues to produce) substantial disruptions to the economy, food system, and health. The impact of the pandemic was not accounted for in the model. An analysis of food-away-from-home spending during the period of December 2019−April 2021 indicated that although there was a small dip in spending at quick-service restaurants (including fast-food restaurants) during March−May 2020, spending steadily increased over time after May 2020, surpassing prepandemic spending.[52] Third, the estimate for the impact of calorie labeling on changes in food purchases and consumption comes from one study using a single fast-food restaurant chain's transaction data; no individual customer data were collected. The effect estimate stratified by income quartile using the restaurant's census tract information was applied to individuals in the virtual population, potentially introducing bias. People almost certainly visit restaurants outside of census tracts that are similar to their own.[23] These results can be updated as new data become available. However, the study used a robust quasiexperimental study design. The estimate for the effect of calorie labeling on consumption is based on evidence using over 67 million fast-food transactions over the period that spanned the implementation of calorie labeling nationally,[11] which distinguishes this study from previously published cost-effectiveness analyses of calorie labeling.

To the authors' knowledge, there are no studies directly linking changes in fast-food consumption with changes in weight, highlighting an area for future research. The energy balance models developed by Hall et al.[30,31] were therefore used, assuming different levels of translation between calories purchased/consumed from fast food and change in total daily energy intake. An experiment by Roberto et al. found no compensation later in the evening from calorie labeling,[53] suggesting that the modeling approach used in the study may have been conservative by assuming 75% compensation. In addition, evidence suggests that ultra-processed foods have a strong impact on weight, leading to a possible underestimation of the policy's effect on obesity.[5]

Finally, only the impacts of calorie labeling at fast-food restaurants were estimated, but the policy was implemented at all chain retail food establishments serving prepared foods, including full-service restaurants and supermarkets. A recent study evaluating the impact of calorie labeling at a large supermarket chain found small declines in calories purchased for bakery and deli items,[54] which have the potential to translate to health benefits. This study likely underestimates the population health impacts of calorie labeling as mandated by ACA.

CONCLUSIONS

Calorie labeling at large fast-food chains is projected to slow excess weight gain over the next decade. Benefits can only be fully realized if this cost-saving intervention is sustained.

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SUPPLEMENTAL MATERIAL

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